Math Science and Engineering

In order to solve the issue of gum sticking to shoes, we need to be well aware of the forces that are at work during this interaction. Some of the forces at work when gum sticks to a shoe is intermolecular bonds. Intermolecular bonds are the forces behind adhesives. Gum has the properties of an adhesive in that it flows enough for the molecules of the gum to catch on to the molecules of the shoe and the gum still retains enough rigidiness to keep the two together. This is the basis for all adhesives. So, for us to achieve our goals, we must dissrupt one (or both) of these properties. As of right now, we know that lowering the thermal energy of the gum causes it to be less sticky. I am inclined to believe that this stems from keeping the molecules less active. Another more realistic approach would be to make the part of the shoe that comes into contact with the ground out of a material that contains very few spots for the gum molecules to cling to.